



# House of Representatives

**File No. 658**

General Assembly

February Session, 2000

**(Reprint of File No. 143)**

House Bill No. 5583  
As Amended by House  
Amendment Schedule "A"

Approved by the Legislative Commissioner  
April 19, 2000

## ***An Act Minimizing Air Emissions At Power Plants.***

Be it enacted by the Senate and House of Representatives in General Assembly convened:

1       (NEW) (a) On and after January 1, 2003, any individual fuel burning  
2       unit in this state used to generate electricity that (1) was built prior to  
3       1977, (2) has the installed capacity to generate greater than twenty-five  
4       megawatts, and (3) generates electricity for wholesale or retail sale  
5       through the combustion of fossil fuels shall comply with the following  
6       limitations regarding the rate of emission of the following substances:  
7       (A) For nitrogen oxides, not more than fifteen one-hundredths pounds  
8       per million British thermal units of heat input, and (B) for sulfur  
9       dioxide, not more than thirty one-hundredths pounds per million  
10      British thermal units of heat input. Such requirements shall be met  
11      year-round by such facility.

12      (b) The owner or operator of a facility may request of the  
13      Commissioner of Environmental Protection a one-year extension to  
14      comply with the requirements of subsection (a) of this section due to  
15      circumstances beyond the control of the owner or operator, including,

16 but not limited to, an imminent threat of a lack of generation capacity  
17 within the state as determined by the Department of Public Utility  
18 Control or delays in obtaining a permit pursuant to section 22a-174 of  
19 the general statutes. When making such request, the owner or operator  
20 shall submit evidence of the owner's or operator's diligent efforts to  
21 comply with said requirements, if applicable, such as applications for  
22 and use of best efforts to obtain a required permit, orders for  
23 equipment to comply with subsection (a) of this section or section 22a-  
24 174 of the general statutes or efforts to reduce emission rates of air  
25 pollutants. The commissioner shall hold a public hearing and after  
26 holding such hearing may grant an extension. In granting such an  
27 extension, the commissioner shall make a written finding of cause for  
28 granting the extension. The commissioner shall not grant more than  
29 two one-year extensions for each such facility.

30 (c) The provisions of this section shall not be construed to limit the  
31 authority of the commissioner pursuant to section 22a-174 of the  
32 general statutes to impose stricter standards than those set forth in  
33 subsection (a) of this section.

34 (d) (1) Between January 1, 2003, and December 31, 2005, and for any  
35 period thereafter during which the use of emission reduction trading  
36 has been extended pursuant to subdivision (3) of this subsection, an  
37 owner or operator of a facility may satisfy the emission rate for  
38 nitrogen oxides set forth in subsection (a) of this section by using  
39 emission reduction trading as described in this subsection. Emission  
40 reduction credits shall be purchased by the owner or operator on a  
41 one-to-one basis through the nitrogen oxide budget program  
42 established by the commissioner under 22a-174-22b of the Regulations  
43 of Connecticut State Agencies for the period beginning May first and  
44 ending September thirtieth and through the nitrogen oxide emissions  
45 reduction trading program established by the commissioner under  
46 22a-174-22 of the Regulations of Connecticut State Agencies for the  
47 period beginning October first and ending April thirtieth, provided  
48 any credits to meet the emission limitations through said emissions  
49 reduction trading program are generated from or allocated to facilities

50 located in Connecticut. A reduction through the use of trading shall  
51 equal the difference between the actual total emissions of the facility  
52 that year and the emissions that would have occurred if the facility had  
53 generated the same amount of electricity at the emission rate for  
54 nitrogen oxides specified in subsection (a) of this section.

55 (2) In addition to meeting the requirement for emission reduction  
56 trading in subdivision (1) of this subsection, the facility shall achieve  
57 an additional reduction in its total annual emissions for nitrogen  
58 oxides as follows: (A) During the year commencing January 1, 2002,  
59 twenty per cent of the difference between the facility's total annual  
60 emissions during the facility's representative baseline year and the  
61 total emissions that would have occurred if the facility had generated  
62 the same amount of electricity at the emission rate set forth in  
63 subsection (a) of this section, and (B) during the years commencing  
64 January 1, 2003, January 1, 2004, and January 1, 2005, and for any  
65 period thereafter during which the use of emission reduction trading  
66 has been extended pursuant to subdivision (3) of this subsection, thirty  
67 per cent of such difference. The facility shall achieve such additional  
68 reduction through (i) capacity restrictions, (ii) capital improvements,  
69 (iii) retirement, (iv) fuel switching, (v) operational changes, or (vi) an  
70 equivalent reduction from mobile or stationary sources located within  
71 the municipality in which such facility is located or from mobile or  
72 stationary sources within a three-mile radius of such facility, provided  
73 for any reduction through another source, the owner or operator shall  
74 submit data to the Commissioner of Environmental Protection for  
75 analysis and approval by the commissioner that an actual or  
76 equivalent reduction is achieved and provided further, if a permit is  
77 required to achieve such reduction, the plan required pursuant to  
78 subsection (f) of this section shall include the date for when a permit  
79 application will be submitted to the commissioner. A facility's total  
80 annual emissions during its representative baseline year shall be  
81 calculated by multiplying the facility's actual heat input for the  
82 representative baseline year by the emission rate in effect for that  
83 facility as of the effective date of this act. For purposes of this

84 subdivision, "representative baseline year" means 1998 or a year prior  
85 to 1998, if the commissioner determines it was more representative of  
86 the facility's typical operation.

87 (3) A facility that has been approved for using emission reduction  
88 trading for nitrogen oxides pursuant to the plan submitted to the  
89 commissioner under subsection (f) of this section shall, on and after  
90 December 31, 2005, comply with the emission rate for nitrogen oxides  
91 set forth in subsection (a) of this section unless the Department of  
92 Public Utility Control finds that there exists an imminent threat of a  
93 lack of generation capacity within the state and the Commissioner of  
94 Environmental Protection determines that the facility is in compliance  
95 with said plan, in which case said commissioner may grant an  
96 extension of up to one year in the use of emission trading beyond  
97 December 31, 2005.

98 (e) (1) Between January 1, 2003, and Decembers 31, 2005, and for any  
99 period thereafter during which the use of emission reduction trading  
100 has been extended pursuant to subdivision (3) of this subsection, an  
101 owner or operator of a facility may satisfy the emission rate for sulfur  
102 dioxide set forth in subsection (a) of this section by using emission  
103 reduction trading as described in this subsection. Emission reduction  
104 credits shall be purchased by the owner or operator on a one-to-one  
105 basis through the federal acid rain trading program set forth in 42 USC  
106 7651 et seq. A reduction through the use of trading shall equal the  
107 difference between the actual total emissions of the facility that year  
108 and the emissions that would have occurred if the facility had  
109 generated the same amount of electricity at the emission rate for sulfur  
110 dioxide specified in subsection (a) of this section.

111 (2) In addition to meeting the requirement for emission reduction  
112 trading in subdivision (1) of this subsection, the facility shall achieve  
113 an additional reduction in its total annual emissions for sulfur dioxide,  
114 during the years commencing January 1, 2003, January 1, 2004, and  
115 January 1, 2005, and for any period thereafter during which the use of  
116 emission reduction trading has been extended pursuant to subdivision

117 (3) of this subsection, equal to thirty per cent of the difference between  
118 the facility's total annual emissions during the facility's representative  
119 baseline year and the total emissions that would have occurred if the  
120 facility had generated the same amount of electricity at the emission  
121 rate set forth in subsection (a) of this section. The facility shall achieve  
122 such additional reduction through (A) capacity restrictions, (B) capital  
123 improvements, (C) retirement, (D) fuel switching, (E) operational  
124 changes, or (F) an equivalent reduction from mobile or stationary  
125 sources located within the municipality in which such facility is  
126 located or from mobile or stationary sources within a three-mile radius  
127 of such facility, provided for any reduction through another source,  
128 the owner or operator shall submit data to the Commissioner of  
129 Environmental Protection for analysis and approval by the  
130 commissioner that an actual or equivalent reduction is achieved and  
131 provided further, if a permit is required to achieve such reduction, the  
132 plan required pursuant to subsection (f) of this section shall include the  
133 date for when a permit application will be submitted to the  
134 commissioner. A facility's total annual emissions during its  
135 representative baseline year shall be calculated by multiplying the  
136 facility's actual heat input for the representative baseline year by the  
137 emission rate in effect for that facility as of the effective date of this act.  
138 For purposes of this subdivision, "representative baseline year" means  
139 1998 or a year prior to 1998, if the commissioner determines it was  
140 more representative of the facility's typical operation.

141 (3) A facility that has been approved for using emission reduction  
142 trading for sulfur dioxide pursuant to the plan submitted to the  
143 commissioner under subsection (f) of this section shall, on and after  
144 December 31, 2005, be required to comply with the emission rate for  
145 sulfur dioxide set forth in subsection (a) of this section unless the  
146 Department of Public Utility Control finds that there exists an  
147 imminent threat of a lack of generation capacity within the state and  
148 the Commissioner of Environmental Protection determines that the  
149 facility is in compliance with said plan, in which case said  
150 commissioner may grant an extension of up to one year in the use of

151 emission trading beyond December 31, 2005.

152 (f) Not later than December 31, 2000, the owner or operator of each  
153 such facility shall submit to the commissioner a detailed plan on how  
154 the owner or operator will achieve the emission reductions set forth in  
155 this section. Such plan shall include whether the owner or operator is  
156 opting to use emission trading pursuant to subsection (d) or (e) of this  
157 section. The commissioner may issue an order to the owner or operator  
158 to implement such plan. Such owner or operator shall comply with  
159 such order issued by the commissioner.

160 (g) The commissioner shall expedite the issuance of any permits  
161 necessary for an owner or operator to carry out the provisions of  
162 subsections (d) or (e) of this section.

163 (h) (1) Not later than April 1, 2003, and annually thereafter, the  
164 owner or operator of a facility described in subsection (a) of this  
165 section shall report to the Commissioner of Environmental Protection  
166 on the emission reductions for nitrogen oxides actually achieved  
167 during the preceding year by any of the methods prescribed in  
168 subsection (d) of this section. Not later than April 1, 2004, and annually  
169 thereafter, the owner or operator of a facility described in subsection  
170 (a) of this section shall report to the Commissioner of Environmental  
171 Protection on the emission reductions for sulfur dioxide actually  
172 achieved during the preceding year by any of the methods prescribed  
173 in subsection (e) of this section.

174 (2) Not later than January 1, 2002, and annually thereafter, the  
175 Department of Public Utility Control shall prepare a report on the  
176 amount of new generation capacity in excess of four megawatts in  
177 Connecticut added to the electric distribution network as well as on  
178 the initiation of construction of any such new electric generation  
179 facilities in Connecticut. Not later than January 1, 2003, and annually  
180 thereafter, said department shall determine whether there exists an  
181 imminent threat of a lack of generation capacity within the state.

The following fiscal impact statement and bill analysis are prepared for the benefit of members of the General Assembly, solely for the purpose of information, summarization, and explanation, and do not represent the intent of the General Assembly or either House thereof for any purpose:

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### **OFA Fiscal Note**

**State Impact:** Minimal Cost and Future Cost

**Affected Agencies:** Departments of Environmental Protection,  
Public Utility Control

**Municipal Impact:** Future Cost

### **Explanation**

#### **State and Municipal Impact:**

It is anticipated that based on the specifications in the bill, 12 boilers located at 6 facilities would need to limit emissions either by reducing actual emissions or through trading. If facilities satisfy the limitations by reducing actual emissions, estimates to upgrade the facilities range from 350 million to 750 million dollars. Such costs may trigger rate proceedings with the Department of Public Utility Control (DPUC) whereby costs would be passed on to the users, including municipalities and the state. However, if facilities use emission reduction trading programs, the costs would be significantly reduced. The exact impact is indeterminate

To the extent that the facilities need to satisfy the emissions limitations in the bill trigger the need for new permits, there would be increased costs to the Department of Environmental Protection (DEP) that potentially would be offset through permit fees. However, expediting permits could result in the diversion of staff away from other permitting activities and result in the need for additional

resources.

DEP will be able to handle the increased workload associated with analysis and approval of data on reduction of emissions assuming the data submitted is substantial and sufficient to verify the reduction of the pollutants.

It is also anticipated that the need to issue orders by DEP for the implementation of a plan would result in the diversion of enforcement staff away from their current duties.

Any increase in the current and/or future workload of the Department of Environmental Protection due to: 1) additional public hearings or findings of cause for granting extensions; 2) the review of any plans submitted by December 31, 2000 for satisfying the emission standard; 3) review of annual reports is anticipated to be handled within the budgetary resources of the agency.

It is anticipated that the future increase in the workload of the Department of Public Utility Control to: 1) determine whether an imminent threat of a lack of generation capacity exists; 2) for other reporting requirements; and 3) rate proceedings will be minimal and handled within normal budgetary resources.

House "A" makes the emission standards apply to individual units rather than facilities. This specifies that the "peak shaving units" are not included in the requirements in the bill, which reduces costs of the underlying bill that could potentially be passed on to users. The amendment also deletes DEP monitoring requirements, eliminating some minimal costs and adds trading provisions which significantly reduces costs, adds extensions which potentially delay costs and adds reporting requirements which minimally increase DEP and DPUC costs from the underlying bill.



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**OLR Amended Bill Analysis**

HB 5583 (as amended by House A)\*

**AN ACT MINIMIZING AIR EMISSIONS AT POWER PLANTS.****SUMMARY:**

This bill requires pre-1977 electric generation units over 25 megawatts to meet certain emission limits for nitrogen oxides and sulfur dioxide on a year round basis beginning January 1, 2003 and authorizes the Department of Environmental Protection (DEP) to adopt more stringent limits by regulation.

The facilities must submit a plan to DEP detailing how they will satisfy the standards. They may either (1) reduce their facilities' actual emissions or (2) use certain existing trading programs to satisfy the standards but only if they achieve an additional actual local reduction in emissions. The trading option terminates December 31, 2005 or December 31, 2006 if the DEP approves a one-year extension based on a determination by the Department of Public Utility Control (DPUC) that an imminent threat of lack of generation capacity exists in the state. The DPUC must make such a determination annually beginning January 1, 2003.

The bill requires DEP to expedite permits necessary to meet the trading option requirements.

The covered facilities must submit a detailed plan by December 31, 2000 to inform DEP of how they will satisfy the standard including whether they will use emission trading. It requires them to submit annual reports to the department on emission reductions they achieve beginning April 1, 2003 for nitrogen oxides and April 1, 2004 for sulfur dioxide.

\*House Amendment A makes the emission standards apply to individual units rather than facilities, deletes the DEP monitoring requirements, and adds the provisions regarding extensions for circumstances beyond the facilities' controls, trading, and reporting.

EFFECTIVE DATE: October 1, 2000

### **EMISSION RATE LIMITS**

Under the bill, the maximum emission rate for nitrogen oxides is 0.15 pounds per million British thermal units (lbs/mmBTU). This is the same rate existing law requires them to meet beginning May 1, 2003 except the bill requires them to meet it beginning January 1, 2003 and to do so year round rather than only during ozone season (i.e., May 1 through September). Nitrogen oxides are a precursor to ground-level ozone (SMOS) a pollutant for which the state's air is in severe to serious noncompliance with federal standards.

Beginning January 1, 2003, the maximum year-round sulfur dioxide emissions rate limit is 0.3 lbs/mmBTU. Under current law, the effective emission rate limit is 1.2 lbs/mmBTU.

By December 31, 2000 facility owners or operators must submit a detailed plan to DEP specifying how they will satisfy the standard and whether they plan to use emission credit trading to do so. DEP may issue an order for the owner or operator to implement the plan.

### **ACHIEVING THE EMISSION RATE LIMITS**

Under the bill, facilities may satisfy the emission rate limits for nitrogen oxides and sulfur dioxides by:

1. reducing their actual emission rate to the required level or
2. participating in emission trading.

### ***Actual Emission Reductions***

If they plan to achieve the actual reductions but are unable to do so for reasons beyond their control, they may apply to DEP for a one-year extension of the deadline to do so. Such circumstances may include an imminent threat of a lack of generation capacity as determined by DPUC or delays in DEP air permits. The facility owner or operator must submit evidence of diligent efforts to satisfy the standard such as (1) best efforts to obtain required permits, (2) equipment orders for meet the standard or other air quality standards, or (3) efforts to

reduce pollutant emission rates. Upon receipt of such evidence and after holding a public hearing, the DEP may grant a one-year extension to the facility accompanied by a written finding of cause for doing so. DEP may grant up to two one-year extensions to any one facility.

### ***Emission Reduction Credit Trading***

If they plan to satisfy the nitrogen oxide and sulfur dioxide standards by using emission reduction credit trading, they must purchase credits on a one-to-one basis from certain existing trading programs. The credits must offset the total amount by which the boiler's actual emissions of nitrogen oxide or sulfur dioxide exceed the amount they would have emitted if they satisfied the standard.

For nitrogen oxide emissions from May 1 through September 30 (i.e., ozone season) the facilities must trade under the regional nitrogen oxide budget trading program (which other Connecticut stationary sources use during that time of year) and for emissions during the rest of the year they may use DEP's nitrogen oxides emission reduction trading program but may only use reduction credits generated by Connecticut facilities. The combined credits must offset boilers total exceedances for the year.

For sulfur dioxide emissions the facilities must purchase the appropriate amount of credits from the federal acid rain credit-trading program.

### ***Local Emissions Reductions***

In addition, to purchasing credits to cover the total exceedances over the emission rates established in the bill, facilities that use the trading option to achieve the standards must achieve additional actual local emission reductions.

For nitrogen oxides, they must achieve an actual local emission reduction in 2002 (a year before the standards take effect), 2003, 2004, 2005, and during any extension of the trading program allowed by the bill. In 2002, the additional reduction must equal 20% of the amount a facility's emissions from a representative baseline year exceed the emissions it would have emitted generating the same amount of electricity while meeting the emission rate limit. In 2003, 2004, 2005, and during any extension of the trading program the reduction must

be 30% of the same amount. The baseline year emissions are determined by multiplying the facilities heat input during 1998 or another year deemed representative by DEP and by the facilities permitted emission rate limit in 2000.

For sulfur dioxides, they must achieve additional actual local emissions reductions in 2003, 2004, 2005, and during any extension of the trading option. The reductions must equal 30% of an amount to be determined using a representative baseline year in the same manner as in nitrogen oxide provisions

The actual local emission reductions may be achieved by:

1. capacity restrictions,
2. capital improvements,
3. retirement,
4. fuel switching,
5. operational changes, or
6. an equivalent reduction from mobile or stationary sources located in the same town as or within three miles of the facility, provided the facility's required plan specifies when they will apply for any necessary permits and the owner or operator submits, and DEP approves, data of the size of the reduction.

### ***Reporting***

Beginning no later than April 1, 2003 the facilities must submit annual reports to DEP regarding nitrogen oxide emission reductions they have achieved under the trading program. No later than April 1, 2004 they must begin submitting similar annual reports regarding sulfur dioxide reductions.

### ***Trading Sunset***

The trading option for nitrogen oxides and sulfur dioxides expires on December 31, 2005 or one year later if the DPUC determines an imminent threat of lack of generation capacity exists in the state. After the trading option expires, the facilities must meet the standard.

### ***DPUC Report and Determination of Generation Capacity Threats***

By January 1, 2002 the DPUC must begin submitting annual reports to

environment and energy committees regarding the amount of new generation capacity over four megawatts added that year as well as any generation projects initiated.

By January 1, 2003 and annually thereafter, DPUC must determine whether an imminent threat of a lack of generation capacity exists within the state.

## **BACKGROUND**

### ***The Federal Clean Air Act***

The 1970 federal Clean Air Act (CAA) created a comprehensive scheme to regulate air emissions from area, stationary, and mobile sources to achieve overall air quality goals. The act regulates the emissions of new stationary sources, such as power plants, and requires them to meet emission limits for various pollutants. The act's provisions do not apply to stationary sources existing prior to the publication performance standard regulations that have not been modified since in a way that increases their emissions. These facilities are sometimes referred to as "grandfathered" sources. While they are not subject to the CAA performance standards, in Connecticut they are subject to other emission control regulations.

### ***Facilities Covered by the Bill***

The bill covers at least six plants (containing 12 operating units): (1) Bridgeport Harbor Station, (2) Devon Station, (3) Middletown Station, (4) Montville Station, (5) New Haven Station, and (6) Norwalk Harbor Station.

### ***Legislative History***

This bill (File 143) was referred to the Energy and Technology Committee on March 24. The committee favorably reported the bill, unchanged, on March 30.

## **COMMITTEE ACTION**

Environment Committee

Joint Favorable Report

Yea 18      Nay 4

Energy and Technology Committee

Joint Favorable Report

Yea 14      Nay 2